

SECTION 07 1113
BITUMINOUS DAMPPROOFING

LANL MASTER SPECIFICATION

When editing to suit project, author shall add job-specific requirements and delete only those portions that in no way apply to the activity (e.g., a component that does not apply). To seek a variance from applicable requirements, contact the ESM Architectural POC.

When assembling a specification package, include applicable specifications from all Divisions, especially Division 1, General Requirements.

Delete information within "stars" during editing.

Specification developed for ML-3 projects. For ML-1 / ML-2, additional requirements and QA reviews are required.

PART 1 GENERAL

1.1 SECTION INCLUDES:

SELECT SOLVENT-BASED MASTIC FOR DRY, FULLY-CURED SURFACES –
SELECT WATER-BASED EMULSIFIED ASPHALT FOR "GREEN" OR SLIGHTLY
DAMP SURFACES

- A Cold-applied solvent-based asphalt mastic dampproofing for exterior below-grade concrete and masonry surfaces.
- B Cold-applied water-based emulsified asphalt dampproofing for exterior below-grade concrete and masonry surfaces.

1.2 SYSTEM DESCRIPTION:

A Performance Requirements:

- 1. Asphalt dampproofing materials shall comply with Volatile Organics Compound (VOC) requirements of the U.S. EPA Architectural Coatings Rule.

SELECT APPLICABLE MATERIAL REQUIREMENT-DELETE OTHERS

- 2. Brush, roller and spray applied short fibered solvent-based asphalt dampproofing shall comply with ASTM D4479, Type 1.
- 3. Trowel applied long fibered solvent-based asphalt dampproofing shall comply with ASTM D4586, Type 1.

4. Brush, roller and spray applied short fiber water-based emulsified asphalt dampproofing shall comply with ASTM D1227, Type 2, Class 1.

SELECT APPLICABLE MATERIAL REQUIREMENT-DELETE OTHERS

5. Trowel applied long fiber water-based emulsified asphalt dampproofing shall comply with ASTM D1227, Type 2, Class 1.
6. Solvent-based asphalt primer shall comply with ASTM D41.
7. Cut-back solvent-based asphalt mastic used as primer shall comply with ASTM D4479, Type 1.
8. Cut-back water-based asphalt emulsion used as primer shall comply with ASTM D1227, Type 3.
9. Reinforcing Fabric shall comply with ASTM D1668.

1.3 SUBMITTALS

- A Submit the following in accordance with Section 01 3300, Submittal Procedures:
 1. Product Data: Manufacturer's technical bulletins and MSDS on each product.
 2. Application Data: Manufacturer's application instructions including environmental requirements.

1.4 QUALITY ASSURANCE

- A Perform work in accordance with National Roofing Contractors Association (NRCA) Waterproofing and Dampproofing Manual.
- B Manufacturer's Qualifications: Company with minimum 15 years experience in manufacturing specified products.
- C. Applicator Qualifications: Company with minimum of 5 years experience in application of specified products on projects of similar size and scope, and is acceptable to product manufacturer.

1.5 ENVIRONMENTAL REQUIREMENTS

- A Ensure that environmental conditions meet manufacturer's requirements when handling, storing, and applying bituminous materials.

PART 2 PRODUCTS

2.1 MATERIALS

SELECT SOLVENT-BASED FOR DRY, FULLY-CURED SURFACES – SELECT
WATER-BASED FOR “GREEN”, OR SLIGHTLY DAMP SURFACES

- A Solvent-Based Asphalt Mastics: Provide cold-applied, solvent-based, asbestos-free, **[fibered] [non-fibered]** asphalt compounds with blended stabilizers, fillers, and solvents suitable for application as a protective coating for exterior concrete and masonry below-grade surfaces. Dampproofing materials shall be flexible, quick-drying, and be able to span small surface holes and hairline cracks.

SELECT METHOD OF APPLICATION

1. Acceptable Spray/Roller/Brush Applied Mastic:
 - a. Sonoshield Semi-Mastic, by Degussa Building Systems
 - b. HE794 Foundation Coating, by the Henry Company
 - c. Sealtight Semi-Mastic, by W.R. Meadows, Inc.
 - d. 83AF Fibered Damp Proofing, by Karnak Waterproofing Products
2. Acceptable Trowel Applied Mastic:
 - a. Sonoshield Mastic, by Degussa Building Systems
 - b. HE793 Foundation Coating, by the Henry Company
 - c. Sealtight Trowel-Mastic, by W.R. Meadows, Inc.
 - d. 86AF Fibered Trowel Mastic, by Karnak Waterproofing Products
3. Acceptable Primer/Cut-Back Mastic:
 - a. HE792 Asphalt Primer, by the Henry Company
 - b. 108 Asphalt Primer, by Karnak Waterproofing Products
 - c. Sonoshield 128 Spray Mastic, by Degussa Building Systems
 - d. Sealtight Spray-Mastic, by W.R. Meadows, Inc.

- B Water-Based Emulsified Asphalt: Provide cold-applied, water-based, asbestos-free, **[fibered] [non-fibered]**, bentonite clay emulsified-asphalt compound suitable for application as a protective coating for exterior concrete and masonry below-grade surfaces. Dampproofing materials shall be flexible, quick-drying, and be able to span small surface holes and hairline cracks.

SELECT METHOD OF APPLICATION

1. Acceptable Spray/Roller/Brush Applied Asphalt Emulsion:
 - a. Hydrocide 700B Asphalt Emulsion, by Degussa Building Systems
 - b. HE789 Fibered Asphalt Emulsion, by the Henry Company
 - c. Sealmastic Type II Emulsion, by W.R. Meadows, Inc.
 - d. 220AF Fibered Emulsion Damp Proofing, by Karnak Waterproofing Products
 2. Acceptable Trowel Applied Asphalt Emulsion:
 - a. Hydrocide 700 Asphalt Emulsion, by Degussa Building Systems
 - b. HE785 Asphalt Emulsion, by the Henry Company
 - c. Sealmastic Type III Emulsion, by W.R. Meadows, Inc.
 - d. 920AF Fibered Emulsion Mastic, by Karnak Waterproofing Products
 3. Acceptable Primer/Cut-Back Mastic:
 - a. HE788 Non-Fibered Emulsion, by the Henry Company
 - b. Hydrocide 600 Asphalt Emulsion, by Degussa Building Systems
 - c. Sealtight Spray-Mastic, by W.R. Meadows, Inc.
- C Protection Board: Provide rigid insulation board as specified in Section 07 2100, Thermal Insulation, to a depth of 36 inches below grade. Apply ½-inch thick bitumen-impregnated hardboard to surfaces below the rigid insulation board.
- D Reinforcing Fabric: Provide manufacturer's recommended woven mesh fabric made of yarns or flexible glass filaments. Fabric shall be stable, durable, acid and heat resistant, and not susceptible to rot or decay.
1. Acceptable Fabrics:
 - a. HE183 Yellowglass Fabric, by the Henry Company
 - b. Sonoshield Reinforcing Fabric, by Degussa Building Systems
 - c. No. 31 Reinforcing Fabric, by Karnak Waterproofing Products

PART 3 EXECUTION

3.1 INSPECTION

- A Verify that surfaces to be dampproofed are in good repair, clean, and conform to dampproofing manufacturer's requirements.
- B Verify items which penetrate surfaces to receive dampproofing are securely installed.
- C Verify that environmental conditions at time of application are within parameters specified by dampproofing manufacturer.

3.2 PREPARATION

- A Protect adjacent surfaces not to receive dampproofing.
- B Surfaces shall be free of dirt, residues, water-repellent compounds, and other foreign matter. All holes, cracks, and recessed joints in concrete or concrete block shall be filled with cement mortar to provide a smooth, clean surface without depressions or projections. Wire brush surfaces a minimum of 4-inches from both sides of fine cracks and corners. Fill vertical cold joints flush with surface, using sealant compatible with asphalt dampproofing.

FOR WATER-BASED EMULSIONS ONLY

- C Prior to application, dampen surfaces with water in accordance with manufacturer's instructions.

3.3 APPLICATION

SELECT DENSE OR POROUS SURFACE – DELETE OTHER

- A Exterior Below-Grade Dense Surfaces [for dense concrete surfaces not subject to hydrostatic pressure]

SELECT 1 APPLICATION METHOD – DELETE OTHER

1. Spray/Brush Application: Apply two coats of asphalt damp proofing by wide soft-bristle/fiber brush, long nap roller, or standard heavy-duty spray equipment. Apply first coat keeping brush strokes in a single directions. Apply second coat keeping brush strokes at a right angle to the first coat. Allow first coat to dry per manufacturer's instructions before applying second coat. Comply with wet film thicknesses and application rates specified in manufacturer's data.

2. Trowel Application: Apply a single coat of trowel-grade asphalt dampproofing to thickness recommended by manufacturer. **[For Severe Conditions]** Apply a second coat to manufacturer's recommended thickness after allowing adequate drying of first coat.
3. Fill all crevices and grooves, ensuring that coating is continuous and free from breaks and pinholes. Carry coating over exposed top and outside edge of footing. Spread around all joints, grooves, and slots and into all chases, corners, reveals, and soffits. Bring coating to finished grade.

B Exterior Below-Grade Porous Surfaces [Concrete block/masonry surfaces – alternate techniques are equally effective – base selection on local preference and availability of equipment]

SELECT 1 APPLICATION SYSTEM – DELETE OTHERS

1. Membrane System: **[For severe conditions or added protection]** Apply prime coat followed by a coat of trowel-grade asphalt dampproofing material as specified for dense surfaces. Within manufacturer's recommended time, apply fabric membrane over all surfaces of coating, overlapping edges a minimum of 3 inches. Embed fabric into coating without wrinkles or buckles. Within manufacturer's recommended time, apply a second coat of trowel- grade asphalt material. Allow to set a minimum of 24 hours prior to backfilling.
2. Two Coat System: Apply over the entire prepared surface, a coat of compatible primer or asphalt dampproofing material cut back as recommended by manufacturer. Apply to recommended wet film thickness and application rate. Following manufacturer's recommended drying time apply one coat of trowel-grade asphalt dampproofing material as specified for dense surfaces. Allow to set a minimum of 24 hours prior to backfilling.
3. Parge Coat System: Apply a parge coat of cement mortar to the block wall, carrying the parge coat from the bottom of the footing. Allow to cure. Apply **[one] [two]** coat[s] of trowel-grade asphalt dampproofing material as specified for dense surfaces. Allow to set a minimum of 24 hours prior to backfilling.

3.4 PROTECTION BOARD INSTALLATION

- A Place protection board directly against membrane; butt joints.
- B Adhere protection board to tacky dampproofing surface.
- C Scribe and cut boards around projections, penetrations and interruptions.

3.5 BACKFILLING

- A Backfilling: Install protection board as specified above. Place backfill not sooner than 24 hours, nor later than seven days, after application of asphalt

dampproofing materials. Do not rupture or damage the film or displace the coating or membranes.

3.6 CLEANUP

- A Solvent-Based: Tools and other equipment shall be thoroughly cleaned with paint thinner or mineral spirits, taking necessary precautions when handling combustible materials.
- B Water-Based: Fresh coating can be removed with soap and water. Remove dried dampproofing material using paint thinner or mineral spirits. Clean hands with waterless hand cleaners.

END OF SECTION

Do not delete the following reference information:

FOR LANL USE ONLY

This project specification is based on LANL Master Specification 07 1113 Rev. 0, dated January 6, 2006.